

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A liquid crystal display panel comprising:

two substrates ~~(1a, 1b, 3)~~ fixed together by a seal member ~~(2)~~ with their main surfaces opposed to each other;

liquid crystal ~~(6)~~ sealingly stored in a region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~; and

a plurality of columnar spacers ~~(5)~~ arranged in the region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~, wherein

said column spacers ~~(5)~~ are arranged such that a number density of said columnar spacers gradually decreases as the position moves from a center of a display region toward an outer periphery.

2. (Currently Amended) A liquid crystal display panel comprising:

two substrates ~~(1a, 1b, 3)~~ fixed together by a seal member ~~(2)~~ with their main surfaces opposed to each other;

liquid crystal ~~(6)~~ sealingly stored in a region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~; and

a plurality of columnar spacers ~~(5)~~ arranged in the region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~, wherein

a number density of said columnar spacers ~~(5)~~ in a first region ~~(32)~~ near an inner side of said seal member ~~(2)~~ is smaller than that in a second region ~~(31)~~ inside said first region ~~(32)~~.

3. (Currently Amended) A liquid crystal display panel comprising:

two substrates ~~(1a, 1b, 3)~~ fixed together by a seal member ~~(2)~~ with their main surfaces opposed to each other;

liquid crystal ~~(6)~~ sealingly stored in a region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~; and

a plurality of columnar spacers ~~(5)~~ arranged in the region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~, wherein

a number density of said columnar spacers ~~(5)~~ in a first region ~~(32)~~ except for a display region is smaller than that in a second region ~~(31)~~ outside said first region ~~(32)~~.

4. (Currently Amended) A liquid crystal display panel comprising:

two substrates ~~(1a, 1b, 3)~~ fixed together by a seal member ~~(2)~~ with their main surfaces opposed to each other;

liquid crystal ~~(6)~~ sealingly stored in a region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~; and

a plurality of columnar spacers ~~(29, 30)~~ arranged in the region surrounded by said two substrates ~~(1a, 1b, 3)~~ and said seal member ~~(2)~~, wherein

said columnar spacers ~~(29, 30)~~ include:

a first columnar spacer ~~(30)~~, and

a second columnar spacer ~~(29)~~ being higher than said first columnar spacer ~~(30)~~ when receiving no load;

said first columnar spacer is arranged in a first region ~~(34)~~ near an inner side of said seal

member ~~(2)~~ and a second region ~~(33)~~ located inside said first region ~~(34)~~; and
said second columnar spacer ~~(29)~~ is arranged in said second region ~~(33)~~.

5. (Currently Amended) A method of manufacturing a liquid crystal display panel comprising:

a spacer forming step of forming columnar spacers ~~(5)~~ on one or both of two substrates ~~(1a, 1b, 3)~~ to be adhered together, said spacer forming step being configured to form said columnar spacers ~~(5)~~ such that a number density of said columnar spacers decreases as the position moves from a center of a display region to be formed toward an outer periphery.

6. (Currently Amended) The method of manufacturing the liquid crystal display panel according to claim 5, further comprising:

a liquid crystal drop applying step of applying a drop of liquid crystal ~~(6)~~ to one or both of said two substrates ~~(1a, 1b, 3)~~, wherein

said liquid crystal drop applying step applies a smaller quantity of liquid crystal ~~(6)~~ than a calculated value obtained when said two substrates ~~(1a, 1b, 3)~~ are parallel spaced from each other by a distance of a designed value.

7. (Currently Amended) A method of manufacturing a liquid crystal display panel comprising:

a spacer forming step of forming columnar spacers ~~(5)~~ on one or both of two substrates ~~(1a, 1b, 3)~~ to be adhered together; and

a seal member arranging step of arranging a seal member ~~(2)~~ on a main surface(s) of one or both of the substrates ~~(1a, 1b, 3)~~ to be adhered together, wherein

said spacer forming step is configured to form said columnar spacers ~~(5)~~ such that a number density of said columnar spacers ~~(5)~~ in a first region ~~(32)~~ near an inner side of said seal member ~~(2)~~ is smaller than that in a second region ~~(31)~~ inside said first region.

8. (Currently Amended) The method of manufacturing the liquid crystal display panel according to claim 7, further comprising:

a liquid crystal drop applying step of applying a drop of liquid crystal ~~(6)~~ to one or both of said two substrates ~~(1a, 1b, 3)~~, wherein

said liquid crystal drop applying step applies a smaller quantity of liquid crystal ~~(6)~~ than a calculated value obtained when said two substrates ~~(1a, 1b, 3)~~ are parallel spaced from each other by a distance of a designed value.

9. (Currently Amended) A method of manufacturing a liquid crystal display panel comprising:

a spacer forming step of forming columnar spacers ~~(5)~~ on one or both of two substrates ~~(1a, 1b, 3)~~ to be adhered together; and

a seal member arranging step of arranging a seal member ~~(2)~~ on a main surface(s) of one or both of the substrates ~~(1a, 1b, 3)~~ to be adhered together, wherein

said spacer forming step is configured to form said columnar spacers ~~(5)~~ such that a number density of said columnar spacers ~~(5)~~ in a first region ~~(32)~~ avoiding a display region to be formed is smaller than that in a second region ~~(31)~~ outside said first region.

10. (Currently Amended) The method of manufacturing the liquid crystal display panel according to claim 9, further comprising:

a liquid crystal drop applying step of applying a drop of liquid crystal ~~(6)~~ to one or both of said two substrates ~~(1a, 1b, 3)~~, wherein

said liquid crystal drop applying step applies a smaller quantity of liquid crystal ~~(6)~~ than a calculated value obtained when said two substrates ~~(1a, 1b, 3)~~ are parallel spaced from each other by a distance of a designed value.

11. (Currently Amended) A method of manufacturing a liquid crystal display panel comprising:

a spacer forming step of forming columnar spacers ~~(5)~~ on one or both of two substrates ~~(1a, 1b, 3)~~ to be adhered together; and

a seal member arranging step of arranging a seal member ~~(2)~~ on a main surface(s) of one or both of the substrates ~~(1a, 1b, 3)~~ to be adhered together, wherein

said spacer forming step is configured to form a first columnar spacer ~~(30)~~ in a first region ~~(34)~~ near an inner side of said seal member ~~(2)~~, and to form the first columnar spacer ~~(30)~~ and a second columnar spacer ~~(29)~~ higher than said first columnar spacer ~~(30)~~ in a second region ~~(33)~~ inside said first region ~~(34)~~.

12. (Currently Amended) A substrate with a spacer comprising a substrate ~~(101)~~; and a spacer formed on said substrate ~~(101)~~, wherein

said spacer ~~(105)~~ has at least a first spacer portion ~~(105a)~~, and a second spacer portion ~~(105b)~~ formed above said first spacer portion ~~(105a)~~, and an upper portion of said first spacer

portion ~~(105a)~~ has a larger diameter than a bottom of said second spacer portion ~~(105b)~~.

13. (Currently Amended) The substrate with the spacer according to claim 12, wherein
the upper portion of said first spacer portion ~~(105a)~~ has a groove ~~(105e)~~ surrounding said
second spacer portion ~~(105b)~~ in a plan view.

14. (Currently Amended) The substrate with the spacer according to claim 12, wherein
assuming that an upper portion of said spacer ~~(105)~~ has a diameter of C, and said spacer
~~(105)~~ has a height of H from the bottom to the upper portion, said spacer ~~(105)~~ has a diameter of
(1.8 x C) or more at the bottom, and has a diameter of (1.05 x C) or less at a height of (0.85 x H)
from the bottom of said spacer ~~(105)~~.

15. (Currently Amended) A panel having the substrate with the spacer according to claim 12; an
opposed substrate ~~(102)~~ opposed to said substrate ~~(101)~~ with the spacer, and a function material
layer interposed between said substrate ~~(101)~~ with the spacer and said opposed substrate ~~(102)~~.

16. (Currently Amended) The panel according to claim 15, wherein
said function material layer is a liquid crystal layer ~~(104)~~.

17. (Currently Amended) A method of manufacturing a panel according to claim 16, comprising
the steps of:

forming a frame-like seal member ~~(103)~~ on a substrate surface of one of said substrate

(101)-with the spacer and said opposed substrate (102);

applying a liquid crystal material to an inside of a frame of said seal member (103); and

adhering said substrate (101)-with the spacer and said opposed substrate (102)-together to form said liquid crystal layer (104).